

Body Perception among At-Risk for Overweight and Overweight Adolescents and the
Relation to Certain Personal Characteristics and Health Lifestyle Behaviors

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ABSTRACT

Purpose: The main purpose of this study was to see if body perception among overweight and obese adolescents related to personal characteristics and health behaviors, including weight management practices.

Methods: This was a retrospective, causal-comparative study. The sample population came from the YRBSS (Youth Risk Behavior Surveillance System). The Statistical Package for the Social Sciences (SPSS Version 14.0) was used for analysis of the data. Preliminary analyses indicated sufficient numbers for desired segmentation of the dataset. Crosstabs with Chi Square analysis were used to test the differences in BMI percentile to the perceived body weight based upon sex and race, the differences in physical activity and nutritional diet based upon correct or incorrect body image, and the differences in the reaction to their weight based upon correct or incorrect body image. The differences in weight change efforts were measured by recoding the perceived weights into four groups: underweight, appropriate weight, slightly overweight, and very overweight. These were crosstabulated by the accuracy of BMI percentiles, according to CDC, and placed into three categories: underestimation, accurate, or overestimation of weight perception.

Results: Data indicated a significant difference in relationships between BMI percentiles and perceived body weight based upon gender. While there was no statistically significant difference in those relationships based on race, African American and Hispanic students who think they are very underweight are almost all of normal weight. There are differences in physical activity and nutrition based upon body image.

Conclusions: US adolescents present with varied perceptions of body weight. Racial and ethnic differences exist in perceived weight status and increasingly express perceptions of being underweight among African American and Hispanic American youth. Accuracy of weight perceptions could serve a considerable role in weight maintenance activities and motivations to change lifestyle behaviors to improve overall health.

CHAPTER 1
INTRODUCTION

Problem Statement

There is a growing concern surrounding the increase in obesity in children and its associated complications. While many studies focus on the physiological implications of childhood obesity, there may also be some promising links between psychological and physiological factors with regard to health-related behaviors.¹ Studies tried to find an explanation for the differences in perceptual body images and attitudinal body image to find an effect on the response to weight changes and control. However, it was difficult to measure interpretation and generalization of body image methodology because self-reports of height and weight are possibly influenced by body weight perception.^{2,3}

A research study by Richard S. Strauss indicated that children's self-reports of whether they considered themselves normal weight or overweight and the statistics correlate poorly with the medical definition of overweight.² Additionally, perceptions were varied based upon personal characteristics, including race. Obese adolescents who accurately perceived themselves as being overweight were mostly found among Caucasian American adolescents. Obese adolescents who inaccurately perceived themselves as being normal weight or underweight were mostly found among African Americans and Hispanics.³ In summary, although studies have helped by looking at the relationship between BMI and body perceptions, they have failed to address a major concern of health researchers and the public - Does body perception among overweight and obese adolescents relate to certain personal characteristics and health lifestyle behaviors?

Review of Literature

Historically, having an overweight child meant having a healthy child. However, over the past two decades the prevalence of obesity in adolescents has significantly increased causing it to become an epidemic.¹ This has become a major concern among health care providers and the general public. The number of US adolescents that were considered to be overweight tripled from 5% in 1980 to 15% in 2000.⁴ Body-mass index (BMI) for adolescents rose in a manner where the heaviest adolescents became even heavier.¹ Body mass index is a measure of body fat that uses height and weight to assess underweight, overweight, and risk for overweight. A BMI <5th percentile is considered underweight, a BMI >85th percentile is considered at risk for being overweight, a BMI >95th percentile is considered overweight, and the 5th – 85th percentile is considered healthy or normal weight.⁵ Adolescent obesity increases the chances for adult obesity and the onset of many risk factors including cardiovascular disease and type 2 diabetes. Other childhood complications due to obesity are psychosocial, pulmonary, gastrointestinal, renal, musculoskeletal, neurological, and endocrine conditions. This public health crisis in the U.S. can be cured by taking preventative steps in changing lifestyle behaviors and promoting awareness.¹

Research on the relation between measured BMI to body perception is very important because of the growing prevalence of obesity and public awareness of obesity as a health problem. Adolescents who perceive their body size as anything other than their actual weight are at an increased risk for several negative physical and psychological health outcomes. This is valid for all races and sexes.⁶ Various studies

have reported that there were significant differences between adolescents' perceived BMI and their calculated BMI.⁴

Gender and race differences had significant influences on body preference and perception. A study conducted using the National Health and Nutrition Examination Survey III (NHANES III) found that reported weight status correlated poorly with actual weight status, predominantly in Caucasian females.² Significant racial differences were limited to girls because African American and Caucasian males have similar self-perceived weight status, dieting behaviors, and desire to lose weight. The main difference between African American and Caucasian females was that African American females were less likely to perceive their bodies as overweight. Normal weight African American females were more likely to want to gain weight and less likely to want to lose weight than normal weight Caucasian females.²

In agreement with the previous studies, an analysis of the association between weight perception and BMI among high school students found that girls were more likely than boys to consider themselves overweight and African American and Hispanic students were less likely than any other race to consider themselves overweight.⁶ Caucasian females who were categorized as normal weight based on their BMI's were more likely than any other race to perceive themselves as overweight. In addition, adolescents with higher measured weight have been shown to underreport their weight significantly more than adolescents with lower measured weight.⁶

Obesity is most common among ethnic minority groups.⁷ Additional studies using the Youth Risk and Behavior Surveillance Study (YRBS) and the National Health Interview Surveys (NHIS) concluded that self-reports of body perceptions may "reflect

cultural biases resulting in differing accuracies among sexes and races.”⁸ Differences in racial perceptions of weight status reflect cultural differences in ideal body type. African American females do not perceive being overweight as unhealthy or unattractive; they have positive feelings about their bodies and are less concerned with losing weight. Their ideal body images were larger than Caucasian female’s ideal body figures.² The large percentages of adolescents with a BMI in the extremely obese category who do not consider themselves as overweight presents a serious barrier in reducing the prevalence of obesity.⁶

Body mass index is closely correlated with body satisfaction. Both men and women with overweight BMI levels have shown signs of body dissatisfaction.⁹ Body dissatisfaction was found to increase with age, therefore, young adults were more likely to prefer thinner women and have a more distorted view of body preference in the opposite sex. African American girls were much more likely than Caucasian girls to be satisfied with their body size, describe themselves as thinner than other girls, and say that they were not overweight. Hispanic girls were likely to rate themselves as attractive and have a more positive attitude towards obesity. Researchers have hypothesized that subcultures are more accepting of overweight figures.⁷

Another study investigated body image and perceptions of attractive, acceptable, and typical female figures. The study was conducted across a range of underweight to obese sizes in a sample of Asian, African American, Hispanic, and Caucasian female and male adolescents. It concluded that demographic characteristics influence a person’s own body dissatisfaction and perceptions of an attractive and acceptable female size. In particular, BMI was strongly correlated with the body figure that was chosen because

heavier individuals tended to choose larger acceptable and attractive female figures.⁷ According to *Health People 2010*, large racial differences in overweight status of girls were found, with the lowest ratings among Asian American females and highest among African American females. The highest ratings in overweight status are among Native American and Hispanic males. The racial differences suggested other factors that should be taken into account, including: social norms regarding body shape, financial resources, support systems, dietary intake, and physical activity patterns.¹⁰

Minority adolescents had a high rate of inactivity and low rate of physical activity, especially in women. Inactivity has been closely associated with obesity. Males that participated in physical activity in the highest category of moderate to vigorous intensity, varied a little by ethnicity. Females have a greater percentage of Caucasians and Asians that participated in the highest level of physical activity. The percentages were much smaller for African Americans and Hispanics. Thus, inactivity was the highest and physical activity was the lowest for African American and Hispanic adolescents. The trends were even higher when focusing on females only.¹¹

Weight conscious adolescents who tried to lose weight had different behavior patterns than those who were not trying to lose weight. Girls who attempted to lose weight reduced the intake of sweet fatty foods, savory fatty foods, some meals, and snacks. They also reduce important foods such as milk, bread and meat. Guilt was associated with food in this group as well. Most students who attempted to lose weight were more dissatisfied with their bodies than the group that was not trying to lose weight. This study also found that girls who were satisfied with their bodies were more likely to exercise frequently than those who were dissatisfied with their bodies. Societal attitudes

were taken into account with this study because males' dissatisfaction showed a desire for the ideal adult male body: muscular, wide shoulders, slim waist, slim hips, and flat stomach. The females concern reflected the desire for a model figure: slim thighs, buttocks, waist, and stomach. Exercise was the most common method among the adolescents who were trying to lose weight. Although, the study found that the students were somewhat inactive, with only 77% of boys and 63% girls doing at least 30 minutes of exercise four days a week. The girls who were satisfied with their bodies exercised more frequently than those who were not satisfied with their bodies.¹²

Cultural influences on body image among African American women have become a risk factor for obesity. However, this ideal protects African American women from eating disorders and overly strict goals for body weight. The data for Hispanic women are mixed because researchers found that it may be more related to acculturation than ethnicity alone. As they acculturate, their behavior and body image may be more strongly influenced by the dominant culture, increasing their level of body dissatisfaction. A study focusing on body discrepancy, which is the disparity between estimated current body image and ideal body image, found that Caucasian women experienced a lower BMI level and had more body discrepancy than African American and Hispanic women. Because African American and Hispanic women did not show discrepancy until they were already overweight, they could be less successful in losing weight since they have more weight to lose at the point where weight control efforts were initiated.³

Many people look at body weight as a controllable factor through diet and exercise, but efforts to lose weight without results can lead to a lack of self esteem. People tend to gain weight as they age so adolescent obesity is more stigmatizing than

adult obesity. Adolescence is the time when young people start dating and are preoccupied with appearance which is why they have a stronger relationship between obesity and self esteem. Since Caucasians place a high value on thinness, they have a stronger correlation between self esteem and obesity than ethnic minorities.¹³ In adolescents aged 13-14, obese boys, obese Hispanic girls, and obese Caucasian girls have significantly lower self esteem levels compared to African American girls. Early adolescence is a crucial time to build self worth for obese children. This is important because approval from peers at this age is needed for the development of self esteem while society today does not tolerate excess weight.¹⁴

Purpose and Objectives

The main purpose of this study was to see if body perception among overweight and obese adolescents related to personal characteristics and health behaviors with their weight management practices. The specific research questions were:

In a sample of at-risk for overweight and overweight adolescents:

1. What is the relationship of the calculated BMI to the perceived body weight?
 - 1a. H (o): There is no difference in the relationship between the calculated BMI and the perceived body weight based upon sex.
 - 1b. H (o): There is no difference in the relationship of the calculated BMI to the perceived body weight based upon race. (African American, Hispanic, or Caucasian)
2. Is there a difference in physical activity and diet based upon body perception?

3. Is there a difference in their reaction to their weight (Q67) based upon correct or incorrect body image?

CHAPTER 2

METHODOLOGY

Population and Sample: The data analysis was completed by using a national database that was established for research purposes. The YRBSS (Youth Risk Behavior Surveillance System) was established by the Centers for Disease Control and Prevention to examine the main health risk behaviors that contributed to the leading causes of death, injury, social problems or disability among youth and adults in the United States.¹⁵ The national, school-based Youth Risk Behavior Survey (YRBS) is a component of the YRBSS. The database is representative to all adolescents in the U.S. The survey focused primarily on health risk behaviors during youth because most problematic behaviors begin during adolescence. Some of these behaviors included: tobacco use, unhealthy diet, inadequate physical activity, alcohol and drug use, sexual behaviors, and those that lead to unintentional injuries or violence. It was composed of national, state, and local school based surveys that were conducted on a representative sample of 15, 240 students in 9th-12th grade. The study protected the student's privacy by making the survey anonymous and voluntary. They also had to have parental consent before administering the questionnaire.¹⁵ Because the analysis was preformed on a secondary database, the study was exempt from IRB approval.

Design: This study was representative of a retrospective, causal-comparative study.

Public use data files were downloaded from the CDC website and were imported into the Statistical Package for the Social Sciences (SPSS Version 14.0) for analysis. Preliminary analyses indicated sufficient numbers for desired segmentation of the dataset.

Data and Instrumentation: Using the YRBS data provided, the following questions were cut and imported into a new database (a subset of the original) containing the data from the following survey questions:

(Q2) What is your sex?

(Q4) How do you describe yourself?

(Q5) How tall are you without your shoes on? (in meters)

(Q6) How much do you weigh without your shoes on? (kilograms)

(Q66) How would you describe your weight?

(Q67) Which of the following are you trying to do about your weight?

(Q73) During the past 7 days, how many times did you drink fruit juices?

(Q74) During the past 7 days, how many times did you eat fruit?

(Q75) During the past 7 days, how many times did you eat green salad?

(Q76) During the past 7 days, how many times did you eat potatoes?

(Q77) During the past 7 days, how many times did you eat carrots?

(Q78) During the past 7 days, how many times did you eat other vegetables?

(Q79) During the past 7 days, how many glasses of milk did you drink?

(Q80) On how many of the past 7 days did you exercise or participate in physical activity for at least 20 minutes that made you sweat and breathe hard, such as

basketball, soccer, running, swimming laps, fast bicycling, fast dancing, or similar aerobic activities?

Recoding:

- Weight classifications of perceived weight (Q66): underweight, appropriate weight, slightly overweight, and very overweight.
- Accuracy of weight perceptions (Q66, Q67): underestimation, accurate, and overestimation.

The SPSS Complex Samples was used for analysis of the data using the appropriate sampling weights. Percentages, means, and standard deviations were used to describe the sample. Crosstabs with Chi Square analysis and ANOVAs were used to test the specific research questions.

CHAPTER 3

RESULTS

Of the original 13,867 viable cases, 928 were eliminated because they contained missing data (age/sex/height/weight) that was necessary for analysis. The sample consisted of male and female adolescents ranging in ages of 12 years or younger to 18 years or older. The majority of the sample came from 15-17 year old male and females students in 9th-12th grade of African American, Hispanic, or White race. Male and female subjects were asked to specify their sex by selecting “male or female” on the survey. There were 6,434.02 females (49.7%) and 6,505.79 males (50.3%). The body mass index (BMI) of the high school adolescents were calculated by self reported height and weight

data. This information was then compared by CDC's reference data for adolescent BMI percentiles. A BMI <5th percentile = underweight, BMI >85th percentile = at risk for being overweight, BMI >95th percentile = overweight, and 5th – 85th percentile = healthy or normal weight.

Analysis of the following is from weighted data:

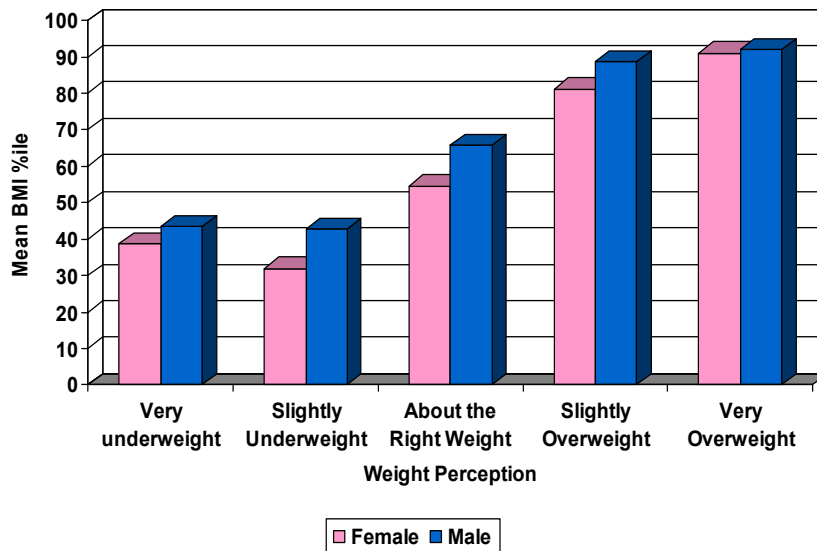
QUESTION 1 - What is the relationship of the calculated BMI to the perceived body weight?

1a. H (o): There is no difference in the relationship between the calculated BMI and the perceived body weight based upon sex.

Using ANOVAs across all surveys of male and female subjects, the very underweight and very overweight BMI percentiles did not prove to be significantly different.

However, there were significant differences in BMI percentile across the slightly underweight, about the right weight, and slightly overweight groups ($P < .001$). Across all surveys, 74.9% of females who were of normal weight perceived themselves to be very underweight. Also, 43% of females who were of normal weight perceived themselves as slightly overweight. These numbers were comparable to the 79.9% of males who were of normal weight and perceived themselves as very underweight, and the 22% of males who were of normal weight and perceived themselves as slightly overweight.

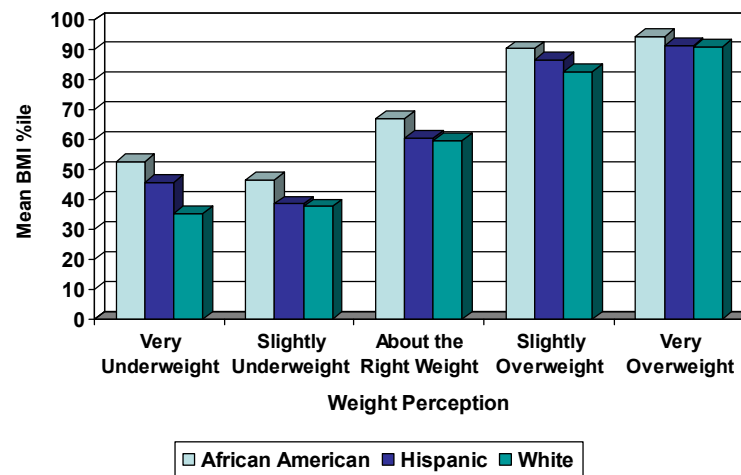
Figure 1: Differences in mean BMI percentile across perceived body weight by gender



1b. H (o): There is no difference in the relationship of the calculated BMI to the perceived body weight based upon race. (African American, Hispanic, or Caucasian)

Across all surveys of African American, Hispanic, and White subjects, the results of the relationship for BMI percentiles to the perceived body weight based upon race did not prove to be significant. This was due to an overlapping of confidence intervals which was primarily caused by a $P > .05$. However, the differences in body weight perception were considerably diverse for White and African American students who described their weight as very underweight and slightly underweight.

Figure 2: Differences in mean BMI percentile across perceived body weight by race



Across all surveys of African American, Hispanic, and White subjects, the percentages of perceived weight by BMI percentiles showed the considerable differences by race. Of African Americans who perceived their body weight to be very underweight, 82.4% were actually categorized as normal weight, according to CDC's BMI percentiles. Another alarming result is that nearly 20% of African American students at risk for obesity perceive themselves as normal weight. Even higher percentages of Hispanic students perceived themselves to be normal weight when they were in fact very underweight or slightly underweight. However, nearly 40% of Hispanics students who are actually overweight perceived their body weights to be slightly overweight. Lastly, the White population also perceived their body weight to higher than their actual BMI percentile category.

Figure 3a: African American BMI percentile and perceived body weight

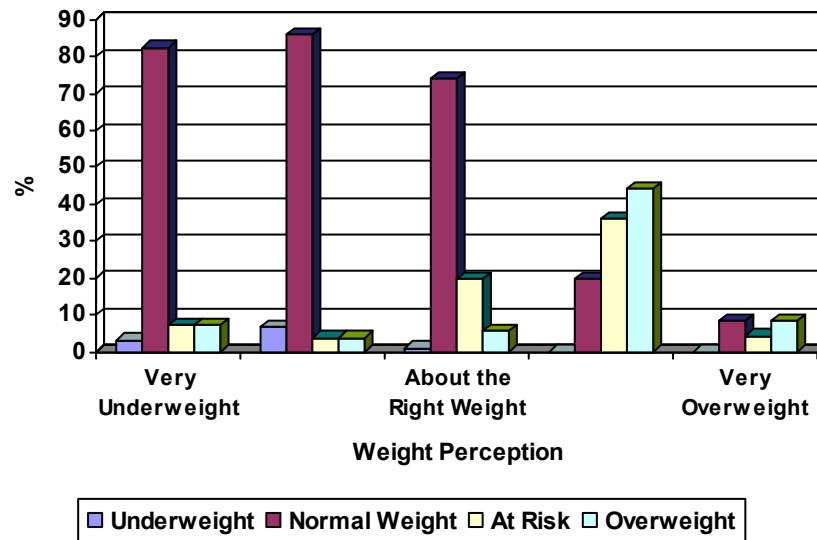


Figure 3b: Hispanic BMI percentile and perceived body weight

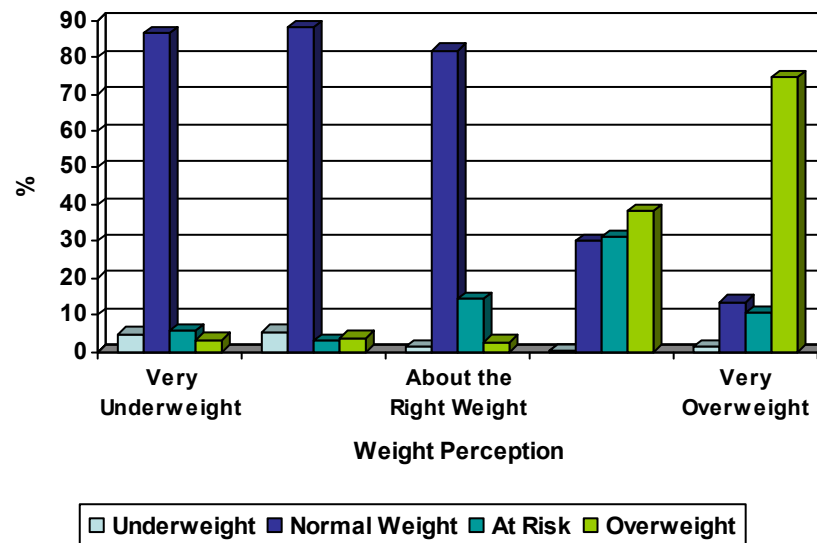
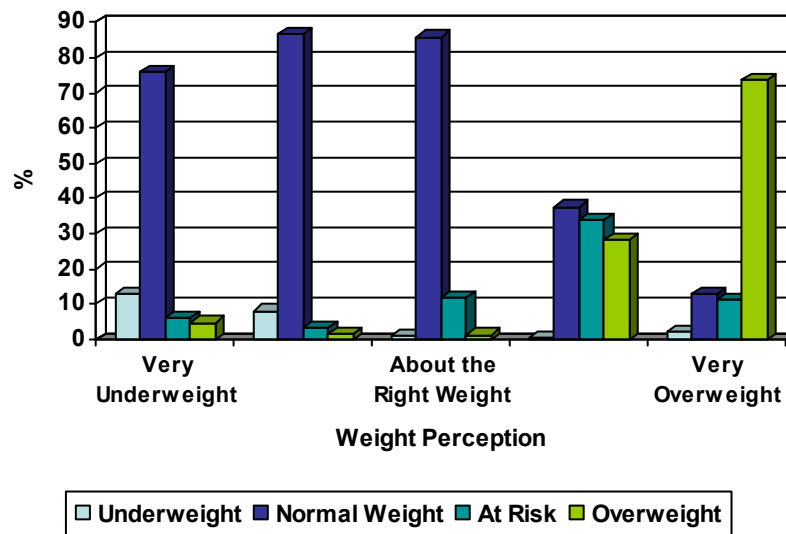


Figure 3c: White BMI percentile and perceived body weight



QUESTION 2 – Is there a difference in physical activity and nutritional diet based upon body perception?

DIETARY HABITS: Across all surveys, there were significant differences among weight status for nutritional diet of fruit juice, fruit, potatoes, carrots, and milk. The most significant differences were in the amount of milk each weight status group drank in a given week ($P < .0001$). There were no significant differences among weight status for intakes of green salad and other vegetables.

PHYSICAL ACTIVITY: The individuals that thought they were very underweight had significantly higher/lower vigorously exercise in the past 7 days compared to those who described their weight as slightly underweight and those who reported they were about the right weight. Those who perceived themselves as about the right weight had significantly more/less moderate exercise in the past 7 days than those who described their weight as very underweight. Individuals with about the right weight perception were significantly different than all other weight status groups except those who thought

they were slightly underweight. Individuals who were active 60 minutes or more in the past 7 days were significantly different than those who perceived their weight to be slightly underweight or about the right weight. Those who described their weight as slightly underweight or about the right weight had significant differences across all other weight status groups.

QUESTION 3 – Is there a difference in their reaction to their weight based upon correct or incorrect body image?

The differences in reaction to weight were measured by recoding the perceived weights into four groups: underweight, appropriate weight, slightly overweight, and very overweight. These were crosstabulated by the accuracy of BMI percentiles, according to CDC, and placed into three categories: underestimation, accurate, or overestimation of weight perception. Of those who underestimated their weight, meaning they perceived themselves to be less heavy than they actual are, 26.3% are trying to gain weight. Of those with accurate weight perceptions, 39.9% are trying to lose weight. Of those that overestimated their weight, meaning they perceived themselves to be heavier than they actually are, 81.9% are trying to lose weight.

When subcategorized into male and female groups, more females who underestimated their weight were trying to lose weight, whereas more males who underestimated their weight were trying to gain weight. Of the females with accurate perceptions of body weight, most were trying to lose weight whereas males with accurate weight perception were evenly spread among losing weight, gaining weight, staying the same weight, and not trying to do anything about their weight. For both males and

females who overestimated their weight, the highest percentages in both sexes were in the category of trying to lose weight, although females had a higher overall percentage. More than half of the male overweight adolescents and 40% of female overweight adolescents that believe they are normal weight are trying to gain weight, stay the same weight, or not trying to do anything about their weight. Females were trying to lose weight across all weight perceptions accuracies.

Figure 4a: Differences in weight change efforts based on weight perception accuracy in females

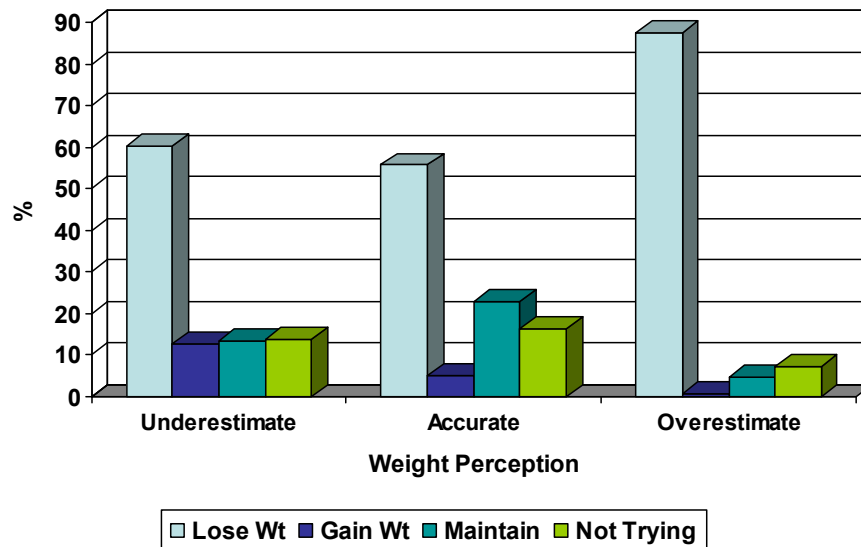
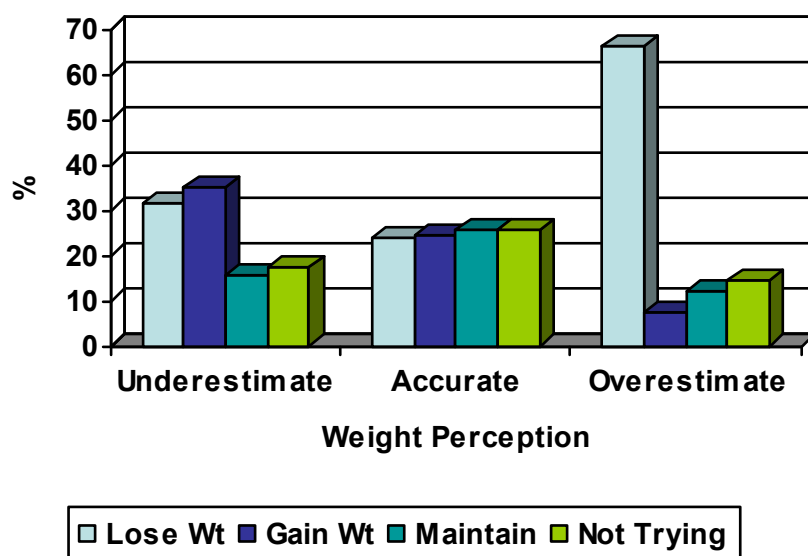


Figure 4b: Differences in weight change efforts based on weight perception accuracy in males



Discussion

From the previous data, it was evident that there were significant differences in the relationship between BMI percentiles and perceived body weight based upon gender. However, this was only true for specific weight categories. Both male and female perceptions of being underweight or very overweight did not prove to be significant. Therefore, males and females who fall into the extreme body weight perception categories do not differ from each other. However, adolescents with weight perceptions of slightly underweight, normal weight, and slightly overweight do have significant differences among them. Of the males and females that perceived themselves as slightly overweight, 43.1% of females actually had normal weight status, whereas 40.4% of males were actually at risk of being overweight. The literature also supports the fact that females are more likely than males to consider themselves overweight,² but this study

found that it was only to be among adolescents who perceive themselves to be slightly underweight, normal weight, or slightly overweight.

There was a considerable amount of literature supporting the differences in body perception among White, African American, and Hispanic races.^{2,6,7,8} Yet, when looking at differences in the relationship between BMI percentiles and perceived body weight based upon race, the results did not prove to be significant. The reason for this is that these results had overlapping confidence intervals. There are large differences in the ranges of the intervals, but they seemed to slightly overlap in each weight category. The differences in body weight perception were considerably diverse for White and African American students who described their weight as very underweight and slightly underweight. For those who perceived their body weight as very underweight, African American adolescents had a confidence interval of 44.9-60.5 and White adolescents ranged from 24.6-45.4. These differences can be better seen in a chi-square analysis table (see table 2). Analysis of the association between weight perception and BMI percentiles among high school students found that African Americans and Hispanics who think that they are very underweight are almost all normal weight. The literature concurs with this finding by stating that African American and Hispanic students are less likely than any other race to consider themselves overweight⁶. This can be caused by cultural perceptions of an ideal body type.

Previous literature has also indicated that the weight perception of a correct or incorrect body image can be linked to nutritional diet and physical activity levels². The results of this study proved that there are differences in physical activity and nutritional diet based upon body image. Weight conscious adolescents who are trying to lose weight

have been documented to reducing the intake of sweet fatty foods, savory fatty foods, some meals, snacks, milk, bread, and meat. Correspondingly, this study focused on the intake of fruit juice, fruit, green salad, potatoes, carrots, other vegetables, and milk intake during a 7 day period. There proved to be significant differences among weight status for the nutritional diet of fruit juice, fruit, potatoes, carrots, and milk. Green salad and other vegetables did not have significant differences. These findings can be difficult to analyze because that fact that people eat differently each week and serving sizes were not accounted for in the survey can all account for the accuracy of the data.

Physical activity, on the other hand, was categorized by more specific groups. This research question was based on weight perception and focused on how many times in the past 7 days each individual vigorously exercised, moderately exercised, and participated in activity for 60 minutes or more. There were significant differences across all weight status groups for each physical activity level. Those who described their weight as slightly underweight reported vigorously exercising more in 7 days than those who perceived themselves to be slightly overweight. There were not significant differences among those who perceived their weight to be very overweight with those who perceived themselves to be very underweight or slightly underweight. Those who vigorously exercised the most in the past 7 days were those who perceived themselves as about the right weight, while those who perceived themselves as very overweight or underweight vigorously exercised the least. The adolescents who perceived they were about the right weight also moderately exercised in the past 7 days more than any other weight status. Again, the extreme weight groups did not have significant differences among them. Individuals who were active 60 minutes or more in the past 7 days also had

the highest mean value for those with weight perceptions of about the right weight. This could be caused by attitude, perceived benefits, perceived barriers, social support, and self-efficacy among overweight and underweight adolescents. Further research in this area could lead to better discussion of why adolescents with normal body perceptions exercise more than adolescents with overweight and underweight perceptions.

The last research question analyzed the accuracy of perceived weight by what adolescents were trying to do about their weight. It was surprising to find that more than $\frac{1}{4}$ of the individuals who underestimated their weight were actually trying to gain weight. This means that some adolescents who are already overweight, but think they are normal weight, are trying to put on more weight. This places those individuals at an extremely high risk for negative health outcomes, contributing to the incidence of obesity in adolescents. Males and females were also separately analyzed and there were significant differences among their accuracy of perceived weight to what they were doing about their weight. More than half of the male overweight adolescents and slightly under half of female overweight adolescents that underestimated their weight were trying to gain weight, stay the same weight, or not trying to do anything about their weight. Of those who overestimated their weight, more females were trying to change their weight by losing weight than any other weight management practice.

Implications

The practical implications of this study can be used to help adolescents with inaccurate weight perceptions learn how to properly manage their weight and motivate them to change their lifestyle behaviors to improve their overall health. This research

provides a good indication that there are several adolescents that perceive their body weight to be something other than it actually is. Implementing programs into high schools that will help adolescents to perceive their weight accurately would be a good way to eliminate this problem and decrease the prevalence of obesity. Some further research that could be done is to target individuals of a younger population who have body misperceptions to find where the misperceptions begin. By doing this, the problem could be fixed by stopping the misperception when signs of it first begin. It would also be beneficial to look at some of the other lifestyle behaviors to see if they play a more significant role in weight perception. Activities such as smoking, drinking, watching television, or even participating in a sport would be interesting to look at. Also, some of the psychological factors and family socioeconomic status could be large contributing factors to body misperception. There are several causes that can lead to body perception, but all are equally important in attaining accurate body perception to maintain a healthy lifestyle.

Conclusion

After exploring the relationships among body perceptions among at-risk and overweight adolescents and personal characteristics and health behaviors, we can conclude that US adolescents present with varied perceptions of body weight. This indicates an emphasis on weight loss across all levels of weight perceptions, especially in females. Racial and ethnic differences exist in perceived weight status and increasingly express perceptions of being underweight among African American and Hispanic American youth. Accuracy of weight perceptions could serve a considerable role in

weight maintenance activities and motivations to change lifestyle behaviors to improve overall health. Overweight adolescents that believe they are normal weight are at an increased risk for obesity and less likely to make lifestyle choices that aimed at attaining or maintaining normal weight. It is important to address this issue at an early age so adolescents can accurately assess their weight and take the appropriate measures to keep a healthy weight and lifestyle.

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